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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,663	10/25/2000	Daniel R. Cassiday	SUN1P413/5329	4650

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EXAMINER	
WONG, BLANCHE	

ART UNIT	PAPER NUMBER
2667	6

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/697,663	CASSIDY ET AL.	
	Examiner	Art Unit	
	Blanche Wong	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on Oct 25, 2002

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *16-22* is/are allowed.

6)☒ Claim(s) *1-3,6 and 7* is/are rejected.

7)☐ Claim(s) *4,5 and 8-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5*.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second failover (Y arrow) at 404 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. The specification does not indicate that the invention allows for simultaneous or dual failovers to 406. Fig. 4.

Furthermore, the drawings are objected to because typographical error. In Fig. 8, first oval, search is spelled search.

Lastly, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 242 and 244.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: typographical error. On. p.14, ln. 8, "oppposed" should be "opposed."

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-3** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Takano et al. (U.S. Pat No. 5,926,456).

Regarding claim 1, Takano discloses a method of transmitting data (for use in an ATM communication apparatus and network) over a network having a plurality of nodes (nodes A,B,C,D in Fig. 17 and 18) and links (VP1-5 in Fig. 17; VP1-10 in Fig. 18) when a link has failed (VP3 in Fig. 17; VP4,5,10 in Fig.18) comprising: receiving a data packet 23 (latch circuit) at a first node having a failed 28/32/36,30/34/37/38 (failure RTG, comparator) link; if needed, determining 24/29/33,26/31/35 (path routing table, selector) an alternative link for the data packet. Fig. 7; transmitting 27 the data packet to a receiver for the alternative link in a second node, thereby allowing the data packet to reach an intended destination by effecting the first node at a hardware 23,28/32/36,30/34/37/38,24/29/33,26/31/35 level and without software intervention.

Regarding claim 2, Takano also discloses detecting 28/32/36,30/34/37/38 (failure RTG, comparator) a specific link failure at the first node; and switching 220 (self-routing switch) the first node to failover mode for the specific link.

Regarding claim 3, Takano also discloses notifying a third node 52 (A or N in Fig. 17; C in Fig. 18) at the far-end of the specific link of the failure (VP3 in Fig. 17; VP4,5,10

in Fig.18); and switching 220 (self-routing switch) the third node to failover node for the specific link.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 6 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano and in view of Tachibana et al. (U.S. Pat No. 5,084,867).

Regarding claims 6 and 7, Takano discloses the method in claims 5 and 6. However, Takano fails to disclose a primary and secondary route tables. In an analogous art, Tachibana discloses a routing method that includes a first and second routing information. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an extra route table such as two separate routing information, as taught in Tachibana, in order to process data and route efficiently. Col. 3, ln. 37-Col. 4, ln. 10.

Allowable Subject Matter

7. **Claims 16-22** allowed.

8. The following is an examiner's statement of reasons for allowance:

Regarding claim 16, the prior art of record fails to show or suggest a node in a communication network comprising: a receiver having a failover buffer for routing a failover data packet; a FIFO data storage area for storing the failover data packet and routing the data packet to a receiver or a transmitter; and a node/link routing table having at least two rows, a row corresponding to a neighboring node, and one or more interconnect links, wherein a failure in a link connected to the node will not disrupt the flow of a data packet scheduled to use the link. Takano discloses a latch circuit 23 and Havansi (U.S. Pat No. 5,905,714) discloses a queue 15a,15d,15f to store inputs but not failover data packets. Tachibana discloses FIFOs 21, however, they are not failover data storage and are memory assignment to process the cells. Takano and Tachibana, among others who use routing table of sort, do not have the same format.

Claims 17-22 are allowable because they include all limitations of independent claim 16 and recite additional limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. **Claims 4-5 and 8-15** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 4, it is noted that Takano discloses converting 11/12/13 (header converter) the data packet to a failover data packet at the first node by marking the data packet as a failover packet, but not by recomputing a CRC value.

Regarding claims 5, it is noted that Takano discloses examining one or more failover route tables (Fig. 19A-F) but route tables do not use a destination node identifier as an index to retrieve an alternative link nor a second column for storing a transmitter identifier.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brady et al. (U.S. Pat No. 5,675,736) discloses a distributed data processing system that includes a plurality of nodes and each node separately processing data and control messages. Brady also discloses a data buffering 30 (data buffer interface) before input and output 42 (I/O switch).

Chen (U.S. Pat No. 5,802,258) discloses a system for maintaining a non-disruptive connection between a local hose and a remote host 170,172,174,176. The system uses a communication box which routes elements in an effort to match up the remote host. Col. 2, In. 60-66.

Doshi et al. (U.S. Pat No. 6,205,117) discloses a table-based link capacity control where routing is done with routing tables 77 and input 70-1,2,3 and outputs 72-1,2,3 are buffered separately.

Havansi (U.S. Pat No. 5,905,714) discloses a method of transmitting data (packet, frame) over a network having a plurality of nodes (node 1,2,3,4 in Fig. 1) and links (link A-B, a-b in Fig.1) when a link has failed (faulty), a method comprising: receiving a data packet (15a in Fig. 2) at a first node (node 1 in Fig. 1) having a failed (faulty) link, the data packet scheduled to use the failed link; routing 16 (router routes it onto a correct output buffer) the data packet to a failover storage area 15a,15d,15f; if needed, determining (col.3, ln. 12-col. 4, ln. 56) an alternative link for the data packet and routing 16 (router routes it onto a correct output buffer) the data packet to a transmitter 15b,15c,15e associated with the alternative link.

James et al. (U.S. Pat No. 5,841,989) discloses a system and method for efficiently routing data packets in a computer interconnect. Packets are received and passed to transmit buffers. Fig. 6A,6B.

Takano et al. (U.S. Pat No. 5,600,630) discloses a path changing system and method for use in ATM communication apparatus.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 703-305-8963. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H Pham can be reached on 703-305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

BW

BW
February 18, 2004

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600